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Food & Agriculture (1945) Department.

SERIES.

ENTRY NO.
C.O. No. 850

Dated 31st August 1945

[Despatch Abstract.]

CULTURE - I.C.S.C. - Scheme to run Nucleus seed farms of improved strains of groundnuts and castor - Forwarded.

GOVERNMENT OF MADRAS
Food Department.

Letter Ms.No.850 dated 31st August 1949

From

The Secretary to Government of Madras,
Food Department,

To

The Secretary to the Indian Oil seeds Committee
'M' Block, Central Secretariat,
New Delhi (with a copy of pp.5-13 c.f.)

Sir,

Agriculture - I.O.S.C. - Scheme to run nucleus seed farms of improved strains of groundnut and castor - Forwarded.

Your letter No.F5-Ag(7)/49-4435, dated 12-1-49.

I am directed to forward herewith a scheme to run six zonal Improved nucleus seed farms for ~~important~~ strains of groundnut and castor in Madras Province submitted by the Director of Agriculture, Madras.

2. The scheme is proposed for a period of five years and is estimated to cost Rs.4,76,000/-, for five years. The receipts from the scheme for five years is estimated at Rs.2,87,500/-. The nmx net expenditure on the scheme for five years will be Rs.1,88,500/-. It is proposed to share the net expenditure equally between the I.O.S.C. and the Provincial Government.

3. I am to request that the sanction of the I.O.S.C. may be kindly be obtained and communicated to this Government at an early date.

Yours faithfully,
Sd/ ** **
Secretary.

p.t.o.

Copy to the Director of Agriculture. He is requested to furnish printed copies of the scheme for forwarding to I.O.S.C. (with copy of pp.5-13 c.f.)

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p.t.o.

INDIAN OILSEEDS COMMITTEE

SCHEME TO RUN SIX ZONAL NUCLEUS SEED FARMS OF IMPROVED STRAINS OF GROUNDNUT AND CASTOR IN THE MADRAS PROVINCE.

Introduction.-- As a result of intensive crop-breeding work done at the Agricultural Research Station, Tindivanam (South Arcot district, Madras), on groundnut and castor, a number of high-yielding strains have been evolved. These strains have been extensively tried in the various districts of the Province in farmers' fields and have been found to give 20 to 30 per cent increased yields over the local cultivated varieties. The strains also possess other desirable qualities, namely, high oil content, shorter duration, drought resistance, etc. With a view to make large quantity of seeds of the improved strains of groundnut available for multiplication and distribution in the districts, the Government of Madras have forwarded to the Indian Oilseeds Committee a scheme for the multiplication of three strains of groundnut at the Agricultural Research Station, Tindivanam, from 1948-49. Under this scheme seeds of the three improved strains, viz., TMV. 1 (A.H. 25), TMV. 2 (A.H. 32) and T.M.V. 3.(A.H. 698) are to be multiplied in about 50 acres and distributed among eight selected districts to run primary seed farms. Further trials carried out in other ground-nut growing districts of the province have shown that these strains, are suitable for introduction in those districts also. With the starting of the comprehensive scheme for the multiplication and distribution of improved strains targets have been fixed for individual crops and districts. Consequent on this organized effort to popularize the strains there has been unusually large demand for the seeds of improved strains of groundnut, gingelly (til) and castor from the district Officers to organize seed farms. It is now felt that the present extent of 50 acres allotted for multiplication of nucleus seeds of groundnut at the Agricultural Research Station, Tindivanam, is inadequate to meet the growing demand for groundnut seeds in the Province. Seed multiplication work is a slow process in groundnut as the procedure from an acre can supply seeds to only about 8 to 10 acres. This work has become all the more slow on account of the tendency on the part of the farmers to dispose off their produce immediately after harvest at attractive prices which have been prevailing in recent years. In castor on account of the cross-fertilized nature of the crop it is very necessary to grow the strains in isolated blocks far removed from each other so that their purity can be maintained. With the limited area available at the Tindivanam Station and the large number of varieties and types grown for breeding purposes, it has not been possible to multiply the seeds of castor strains to the extent desired.

To multiply the seeds of the improved strains of gingelly (til) about 12-90 acres are being devoted to this crop and it is felt that the production of nucleus seeds from this area will be sufficient to meet the demand. So, considering the large demand for pure seeds of improved strains of groundnut and castor from the districts to run primary seed farms and to ensure regular supply of pure seeds in sufficient quantities it is very necessary to run nucleus seed farms in selected centres of this Province to supply seed for primary seed farms for groundnut and castor.

2. Details of the scheme.-- With the knowledge gained from the result of extensive trials of the different strains carried out in the districts, it is proposed to multiply and distribute only the following strains in the district noted against each:-

Groundnut---

TMV. 1 (A.H. 25) — Tirunelveli, Ramnad, Madurai, Tiruchirapalli, Tanjore and Malabar

p.t.o.

TMV. 2 (A.H. 32) .. Ramnad, North Arcot and Tanjore.

TMV. 3,(A.H. 698) .. Coimbatore, Salem, North Arcot, Chingleput, Chittoor, Cuddapah, Anantapur, Bellary, Kurnool and other districts.

CASTOR----

TMV. 1 .. Anantapur, Bellary, Cuddapah and Kurnool.

TMV. 2 .. Coimbatore, Salem, North Arcot, Chingleput and other districts.

Notes on the different strains of groundnut and castor are given in Appendix I.

To facilitate the multiplication and distribution of the improved strains, it is proposed to run six ~~nucleus~~ nucleus seed farms at the centres noted below. This kind of decentralization of seed multiplication work is necessary as it would help to reduce the expenditure on transport of seeds and also will mitigate the effect of bad season at one or more centres. Each seed farm will be 50 acres in extent. The following table gives the centres selected for locating the nucleus seed farms, strains, proposed to be multiplied in each and the area which they are proposed to serve:--

Serial number and name of the centre where the nucleus seed farm will be located.	Strains proposed to be multiplied and area to be developed in each		Area which the seed centre is expected to serve.
	Groundnut	Castor	
1. Srivilliputtur (Ramnad Dt.)	TMV. 1 -40 acres TMV. 2 -10 acres		Tirunelveli, Ramnad and Mathurai
2. Pollachi (Coimbatore Dt.)	TMV. 1 -20 acres TMV. 3 -20 acres AH.334 - 5 acres	TMV. 2 - 5 Acs.	Coimbatore, Tiruchirapalli and Malabar
3. Salem (Salem Dt.)	TMV. 3 -45 acres	TMV. 2 - 5 acs.	Salem, North Arcot and other Dts. ~~Ching~~
4. Tindivanam (South Arcot Dt.)	TMV. 1 -10 acres TMV. 2- 10 acres TMV. 3 -30 acres		Chingleput, South Arcot and Tanjore.
5. Voyalpad (Chittoor Dt.)	TMV. 3 -45 acres	TMV. 1 - 5 acs.	Cuddapah, Chittoor and Anantapur
6. Adoni (Bellary Dt.)	TMV. 3 -45 acres	TMV. 1 - 5 acs.	Bellary and Kurnool.

On a modest estimate 200,000 lb. of picked seeds of the groundnut strains and 6,000 lb. of the castor (seeds) strains will be produced annually by the six nucleus seed farms. This quantity would enable the District Officer to organize 2,000 acres and 1,200 acres of primary seed farms of the ground nut and castor strains, respectively every year. When regular supply of the above quantity of seeds is ensured and their subsequent stages of multiplication properly organized and worked out under the comprehensive scheme in the districts, it will be possible to replace the local cultivated varieties with the

improved strains in a period of five years. Unless this source of continuous supply of large quantities of pure seeds of the improved strains is established it may not be possible to spread them even to a small extent under the existing conditions. For these reasons the establishment of the six zonal nucleus seeds farms is considered very necessary for oil seeds development work in this Province.

3. Staff and control.-The scheme will be worked under the control and guidance of the Oilseeds Specialist, Coimbatore.

For the successful working of the scheme the following staff are considered absolutely necessary. The scheme will be in charge of a responsible gazetted officer whose headquarters will be at Tindivanam where one of the nucleus seed farms is located. The officer in charge will have to survey the centres selected, take on lease suitable sites, organize the nucleus seed farms and supervise the work on these seed farms. He will also see that the purity of the strains is maintained and that only seeds of good quality are distributed x every year among the districts to primary seed farms. He will also advice the District staff in the matter of organizing primary and secondary seed farms and the maintenance of purity and quality of the produce from these seed farms. By periodical inspection and survey he will ~~produce from these seed farms~~ watch the rate of spread of the improved strains and suggest such measures as may be necessary to reach the target. In fact this officer will act as a liaison officer between the main breeding station and the district staff. For these reasons, it is considered very necessary that he should be one with an intimate knowledge of the crops and their cultivation in the districts.

Each nucleus seed farm will be in charge of an upper subordinate (Assistant) who will be helped by a fieldman. The duties of this upper subordinate will be to manage the cultivation of the 50 acres of seed multiplication block efficiently, grow the strains at the proper season, take sufficient precautionary measures against pests and diseases, dry and store the seed farm produce properly, maintain the purity of the strain by proper roguing and handling after ~~the~~ harvest and arrange for the despatch of the seeds to the District Officers in time. He will also give technical advice to the District staff in the organizing and running of seed farms, roguing off types in the field and conduct viability tests of the seed farm produce intended for distribution among cultivators.

One clerk-typist is necessary for the office of the Assistant Oilseeds Specialist to attend to the routine correspondence, accounts and typing work. There should be eight peons one for the officer, one for the office of the Assistant Oilseeds Specialist and one for each of the six nucleus seed farms

4. Finance.-- The scheme should be worked for a period of at least five years so that a major portion of the groundnut area in the districts may be covered by the improved strains x in as short a period as possible. The scheme is estimated to entail a gross expenditure of Rs.4,76,000 with an estimated revenue of Rs.2,87,500 and the net expenditure on the scheme will be only Rs.1,88,500. An abstract of expenditure on the staff and working expenses and of receipts from the scheme during the period of five years for all the six nucleus seed farms is furnished in the following abstract. Details of the above are separately given in Appendix II.

The above estimate includes the expenditure and receipts for all the six nucleus seed farms including the one already sanctioned for Tindivanam from 1948-49. The nucleus seed farm now being run at Tindivanam will merge in this proposed enlarged scheme when it is approved and put into operation.

Appendix.....p.t.o.

APPENDIX - I.

Notes on the Improved Strains of Groundnut and Castor

Groundnut.

TMV. 1 (A.H. 25).- A high-yielding strain with spreading habit of growth giving more than 25 per cent increase in yield over "Mauritius" variety largely cultivated by farmers. It is best suited to be grown during the rainfed season (July-December) and is a drought-resistant type. On account of the smooth cylindrical nature of pods, harvesting is comparatively easy and less costly than the farmers' variety as most of the pods remain attached to the plants when lifted. The strain has done well in almost all the districts of the Province, particularly in the districts of Ramnad, Tirunelveli, Madhurai, Tiruchirappalli, Tanjore and Malabar.

Plants are vigorous with spreading habit of growth. Leaflets small, dark green pods being 2-seeded, 3-seeded being very occasional; beak prominent; veins not distinct, constriction shallow; shell medium thickness; kernels medium, oblong, somewhat plump, rose to brown in colour.

Duration	135 days
Acre yield of pods	1,450
Proportion of kernels to pods by weight..	73.5 per cent
Weight of one Madras measure of pods ..	1 lb. 4 oz.
Weight of one Madras measure of kernals..	2 lb. 11½ oz.
Number of kernels per pound ..	950
Percentage of oil (by chemical extraction) ..	50

2. TMV. 2(A.H. 32).-A high yielding strain with bunch habit of growth suited to be grown both during rainfed (July-December) and summer (irrigated, February-May) seasons. It is particularly suited to tracts where the monsoon period is short or where two crops are taken during the main season. Being a bunch variety harvesting is easy. It cannot stand long periods of drought. The strain is suited to be grown in the districts of Ramnad, North Arcot and Tanjore.

Plants grow erect and have few branches. Leaflets large, light green, pods small, 1 to 2 seeded; beak distinct; veins prominent; constriction shallow to deep; shell very thin; kernels small, rounded, plump, light rose.

Duration	105 days
Average acre yield --	
Rainfed crop	1000 lb.
Irrigated crop	2000 lb.
Proportion of kernels to pods by wx weight ...	76.7 per cent
Weight of one Madras measure of pods ..	1 lb. 5½ oz.
Weight of one Madras measure of kernels	2 lb. 13¾ oz.
Number of kernels per pound ..	1470
Percentage of oil (by chemical extraction)	49

3. TMV. 3 (A.H. 698).- A high-yielding strain with spreading habit of growth giving more than 25 per cent increase in yield over the farmers' variety. It has high-shelling outturn and a natural test weight. The strain is highly popular in almost all the groundnut growing districts of the Province.

Plants vigorous with many primary and secondary branches. Leaflets small, dark green; pods small, 1 to 3-seeded, 3-seeded being very occasional; beak not distinct (rounded); veins distinct; constriction shallow; shell thin; kernels small, rounded, not plump, rose.

p.t.o.

Duration	.. 135 days
Average acre yield	.. 1,450
Proportion of kernels to pods by weight	.. 76.8 per cent
Weight of one Madras measure of pods..	.. 1 lb. 6¼ oz.
Weight of one Madras measure of kernels	.. 2 lb. 13¼ oz.
Number of kernels per pound ..	.. 1,150
Percentage of oil (by chemical extraction)	.. 50

A.H. 334.- A high-yielding strain with spreading habit of growth. It is very well suited to be grown as an irrigated crop in the summer season (February-June).

Plants vigorous with spreading habit of growth. Leaflets small, dark green, Pods medium sized, 1 to 3 seeded, 3 seeded many; beak prominent, veins not distinct, constriction shallow to medium, shell medium thickness; kernels medium to small eliptic, not plump, rose.

Duration	.. 135 days
Average acre yield	.. 3,500 lb.
Proportion of kernels to pods by weight	.. 76.5 per cent
Weight of one Madras measure of pods -	.. 1.lb. 4 oz.
Weight of one Madras measure of kernels	.. 2 lb. 13¼ oz.
Number of kernels per pound	.. 1,470
Percentage of oil (by chemical extraction)	.. 49

Castor.

TMV. 1 (R.C. 59-8-1):- A high yielding short duration strain evolved by hybridization. The strain particularly suited to be grown in the Ceded districts (Anantapur, Bellary, Cuddapah and Kurnool).

Plants are short (4 to 6); branching terminal, 2 to 4 with secondaries and tertiaries. Stem medium thickness, rose with heavy covering of waxy bloom inflorescence long (1½' to 2'), capsules ~~xxxx pixixky~~ compactly set. Capsules small, green with purple tinge, spiny, dehiscent, seeds small, oblong, grey speckled with dark sepia.

Duration	.. 6½ months
Average acre yield of beans ..	.. 750 lb.
Weight of one Madras measure of beans..	.. 2 lb. 7¼ oz.
Number of beans per pound	.. 1,880
Percentage of oil (by chemical extraction)	.. 51

TMV. 2 (R.C. 59-2-1-1).- A high yielding medium duration strain isolated from a cross. The strain comes up well in the Central and Southern districts of the Madras Province.

Plants are of medium height (6' to 8'); branching terminal, 2 to 3 with secondaries and tertiaries. Stem thick, rose coloured with a heavy covering of waxy bloom. Inflorescence long (2' to 3'), capsules sparsely set. Capsules medium sized, green with purple tinge, spiny, non-dehiscent. Seeds medium, oval, red brown with an overlay pattern of dark red.

Duration	.. 7 months
Average acre yield..	.. 775 lb. 1560
~~Number of beans per lb. .. ..~~	.. ~~2 lb. 6 oz.~~
Percentage of oil (by chemical extraction)	.. 50
weight of 1 madras measure of beans ..	.. 2lbs 6oz

Appendix -II p.t.o.

A p p e n d i x - II.

Details of Expenditure and Receipts.

A. Expenditure.

	Years. (1) Rs.	(2) Rs.	(3) Rs.	(4) Rs.	(5) Rs.	TOTAL Rs.
1. Pay of Officer - Assistant Oilseeds Specialist on Rs.230-30/2-260-40/2-500-50/2-700	2,760	2,760	3,120	3,120	3,600	15,360
2. Pay of establishment --						
Six Assistants on Rs.100-5-140-10-220. ..	7,200	7,560	7,920	8,280	8,640	39,600
Six fieldmen on Rs.45-2-55-1-60	3,240	3,384	3,528	3,672	3,816	17,640
Clerk-typist on Rs.45-3-60-2-90	540	576	612	648	684	3,060
Eight peons on Rs.18-½-25	1,728	1776	1,824	1,872	1,920	9,120
Total ..	12,708	13,296	13,884	14,472	15,060	69,420
3. Dearness allowance --						
Assistant Oilseeds Specialist	552	552	624	624	708	3,060
Six Assistants	1,728	1,872	1,944	2,016	2,088	9,648
Six Fieldmen	1,584	1,584	1,584	1,584	1,584	7,920
Clerk-typist ..	264	264	264	264	264	1,320
Peons	1,728	1,728	1,728	1,728	1,728	8,640
.. .. Total ..	5,856	6,000	6,144	6,216	6,372	30,588
4. Travelling allowance --						
Officer	1,000	1,000	1,000	1,000	1,000	5,000
Establishment	500	500	500	500	500	2,500
Total	1,500	1,500	1,500	1,500	1,500	7,500
5. Other Charges ..						
Deadstock-Gunnies	5,000	...	5,000	..	..	10,000
Service postage and other contingencies	1,000	1,000	1,000	1,000	1,000	5,000
Office and godown rent including watchmen	2,000	2,000	2,000	2,000	2,000	10,000
Lease amount	30,000	30,000	30,000	30,000	30,000	150000
Cultivation and ~~storing~~ expenses	24,000	24,000	24,000	24,000	24,000	120000
Manuring	6,000	6,000	6,000	6,000	6,000	30,000
Drying and storing produce	2,000	2,000	2,000	2,000	2,000	10,000
Picking seed-pods	2,000	2,000	2,000	2,000	2,000	10,000
Railway freight on seed	1,000	1,000	1,000	1,000	1,000	5,000
Miscellaneous	600	600	600	600	692	3,092
Total. other charges	73,600	68,600	73,600	68,600	68,692	353092
Grand total of expenditure.	96,424	92,156	98,248	93,908	95,224	4,75,960 or 4,76,000

P.T.O.

B. Receipts.

	Years. (1) Rs.	(2) Rs.	(3) Rs.	(4) Rs.	(5) Rs.	Total Rs.
1. Sale of groundnut pods	44,800	44,800	44,800	44,800	44,800	2,24,000
2. By recovery of railway freight prepaid	1,000	1,000	1,000	1,000	1,000	5,000
3. By sale of mixture pods	9,000	9,000	9,000	9,000	9,000	45,000
4. By sale of castor seed beans	1,500	1,500	1,500	1,500	1,500	7,500
5. By sale of groundnut haulms	200	200	200	200	200	1,000
6. By sale of mixture castor beans	500	500	500	500	500	2,500
7. " Castor stalks	100	100	100	100	100	500
8. " Old gunnies	..	..	1,000	..	1,000	2,000
Total	57,100	57,100	58,100	57,100	58,100	2,87,500

ABSTRACT.

A. Expenditure.

	Rs.	Rs.
1. Pay of Officer --		
Assistant Oil Seeds Specialist on Rs.230 -30/2-260-40/2 - 500 - 50/2 - 700	15,360	15,360
2. Pay of establishment --		
(i) Six Assistants on Rs.100-5-140-10-220	39,600	
(ii) Six Fieldmen on Rs.45-2-55-1-60	17,640	
(iii) One clerk-typist on Rs.45-3-60-2-90	3,060	
(iv) Eight peons on Rs.18-½-25	9,120	
		69,420
3. Dearness Allowance--		
(i) Assistant Oil Seeds Specialist	3,060	
(ii) Six Assistants	9,648	
(iii) Six Fieldmen	7,920	
(iv) Clerk-typist	1,320	
(v) Eight peons	8,640	
		30,588
4. Travelling allowance --		
(i) Officer	5,000	
(ii) Establishment	2,500	
		7,500
5. Other Charges --		
Dead stock	10,000	
Service postage and other contingencies	5,000	
Office and godown rent	10,000	
Lease amount	150,000	
Cultivation expenses	1,20,000	
Manuring	30,000	
Drying and storing produce	10,000	
Picking seed pods and packing	10,000	
Railway freight on seeds	5,000	
Miscellaneous	3,092	
		3,53,092
Grand Total of Expenditure		4,75,960 or 76,000

p.t.o.

B. Receipts.

	Rs.
Sale of groundnut pods (seed)	2,24,000
Sale of groundnut pods (~~seed~~ rejected)	45,000
Sale of castor seeds beans	7,500
Sale of castor seed beens (rejected)	2,500
Sale of groundnut haulms	1,000
Sale of castor stalks	500
Sale of oil gunnies	2,000
By the recovery of railways freight prepaid	5,000
Total	2,87,500

Net expenditure Rs.4,76,000 - 2,87,500

= Rs.1,88,500

(True copy)

R. Thangaraju 25.4

Office Assistant,
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